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Contents of Transceiver

Transceiver 7–2
Introduction 7–2
Technical Specifictions 7–4
Modes of Operation 7–4
Control Channel Operation 7–4
Exploded View of NHC–4NX, –4HX, –4NE, –4EE and –4NV 7–5
Assembly Parts of NHC–4NX, –4HX, –4NE and –4NV 7–6
Exploded View of NHC–4NB and NHC–4HB 7–7
Assembly Parts of NHC–4NB and NHC–4HB 7–8

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Transceiver

Related Documentation

3C 0500397	expl. view of NHC–4NX/HX/NE/NV
3C 0500398	expl. view of NHC–4NB/HB
6E 0260659	ass. parts of NHC–4NX/HX/NE/NV
6E 0260871	ass. parts of NHC–4NB/HB
3C 0500225	expl. view of NHC–3XN
6E 0260349	ass. parts of NHC–3XN
3C 0500226	expl. view of NHC–3AA
6E 0260350	ass. parts of NHC–3AA
3C 0500227	expl. view of NHC–3XB
6E 0260351	ass. parts of NHC–3XB

Introduction

The NHC–4 is a dual mode handportable Cellular phone for North American dual mode TDMA system. Reference for specifications are IS–55A ”Recommended Minimum Performance Standards for 800 MHz Dual–Mode Mobile Stations” and IS–54B ”Dual–mode Mobile station – Base station Compatibility Standard”, RSS128 ”800 MHz Dual–Mode Cellular Radiotelephones” and ”CTIA Certification program”.

NHC–4 offers analog mode and digital mode full rate speech services defined in IS–55A and analog mode asynchronous data services. It provides nine transmission power levels in digital mode and six in analog mode at a maximum power level of 0.6 W +2/–4 dB in power class IV. The transceiver has a retractable antenna and a connector for external antenna. User communicates with phone via LCD–display, keybord and some audible tones.

NHC–4 can be connected to different accessories e.g. chargers, holders, hands–free units, data–adapters and handset through the bottom system connector. NHC–4 can also be connected to a RF booster, which increases transmit power to full mobile power level class I. NHC–4 supports three different battery options: NiCd standard and NiMH high capacity and slim battery.

The transceiver consist of four modules: UIF module, system module, battery pack and mechanics.

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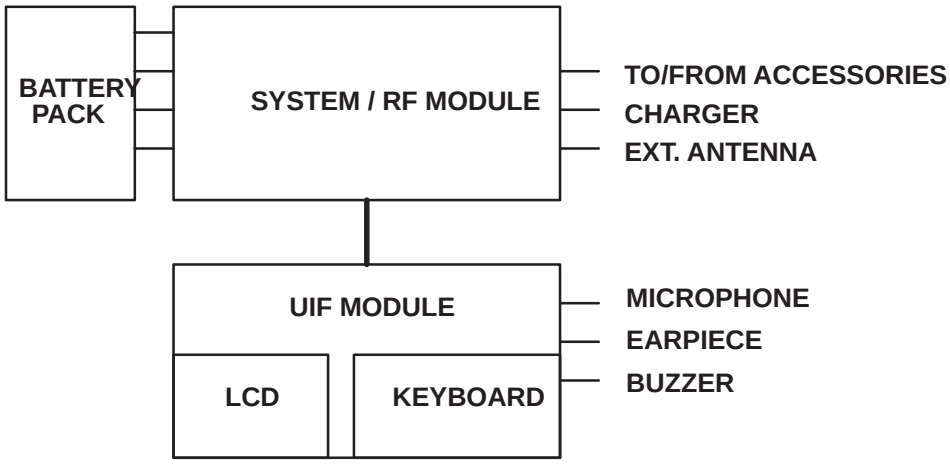

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Technical Specifictions

Modes of Operation

NHC–4 operates in three modes:

1. In AMPS mode it operates in analog control and traffic channel
2. In digital mode in digital traffic channel
3. Test mode, which is used by Production and After Sales.

Control Channel Operation

In normal standby the terminal receiver, UHF frequency synthesizer and MCU are powerd on continously and the receiver is monitoring the incoming signal constantly. DSPs and MCU are in clock stop sleep. MCU is woken up every 46.3 ms by the RX modem.

In extended standby the terminal receiver and UHF frequency sythesizer are powered on only for the time of incoming data bit and frame synchronization and for the time of the first data repeat. DSP and MCU are in clock stop sleep. MCU is woken up and DSP and MCU clocks are switched on twice every 46.3 ms by the RX modem. If the parity check of the first repeat of the incoming data is correct, MCU and RF receiver and sythesizer are powered down untill the next interrupt. If the parity check shows errors, the extended stanby mode is disrupted and normal standby mode is resumed until several correct consecutive frames have been received.

Out of range operation (OOR) is used, when terminal fails to syncronize to any control channel after 15 s of scanning. During the scan the terminal receiver, UHF frequency sythesizer and MCU are powerd and clocked as in normal standby and in sleep they are power down like in extended standby. After being 40 s in the OOR mode the terminal scans control channels for 2.6 s. If synchronization is aquired then stanby mode and SERV are resumed. if no synchronization is found, then the terminal goes to OOR state for another 40 s etc. If any button of the terminal user interface is pressed during OOR mode, the terminal performs a rescan. OOR mode is not entered, when the terminal is connected to any charging device.

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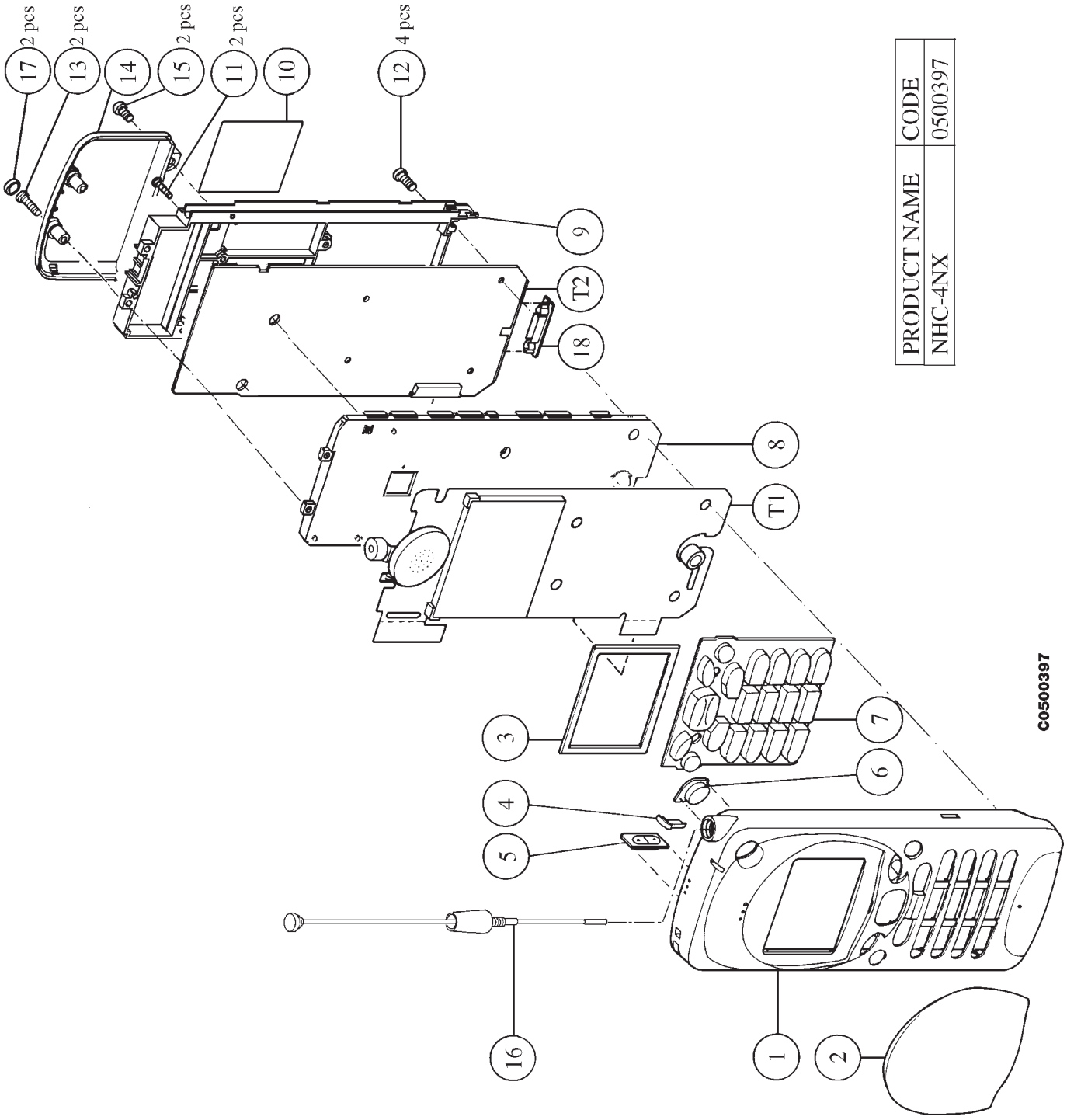
Exploded View of NHC–4NX, –4HX, –4NE, –4EE and –4NV



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Assembly Parts of NHC–4NX, –4HX, –4NE, –4EE and –4NV

ITEM	Q'TY	CODE	DESCRIPTION	VALUE, TYPE
1		9450265	Front cover	2D 23953
2		9457268	Window	3C 25790
5		9790055	Side keymat	3D 22995
6		9790062	Power keypad	4C 23396
7		9790149	Keypad	3C 25789
8		9460152	A–shield	1D 24508
9		9540009	B–shield	0D 24509
10		9380264	Continuous sheet	4D 23435
12	4	6291662	PT screw	1.8x8 FeZn torx6
14		9450592	Back cover	1D 25643
15	2	6290060	Screw	M2x5–BT ZNB torx6
16		0660101	Antenna AHA–12	JTI/DAMPS 824–894 MHz
17	2	9460109	Plug	4D 23622
18		9457112	Connector cover	3D 23772
T1		0200175	UIF module DU4	
T2		0200674	System module GR4	
	2	6291662	PT screw	1.8x8 FeZn torx6
	2	6291664	PT screw	1.8x16 FeZn torx6
		9560038	Edge clip	4D 26284

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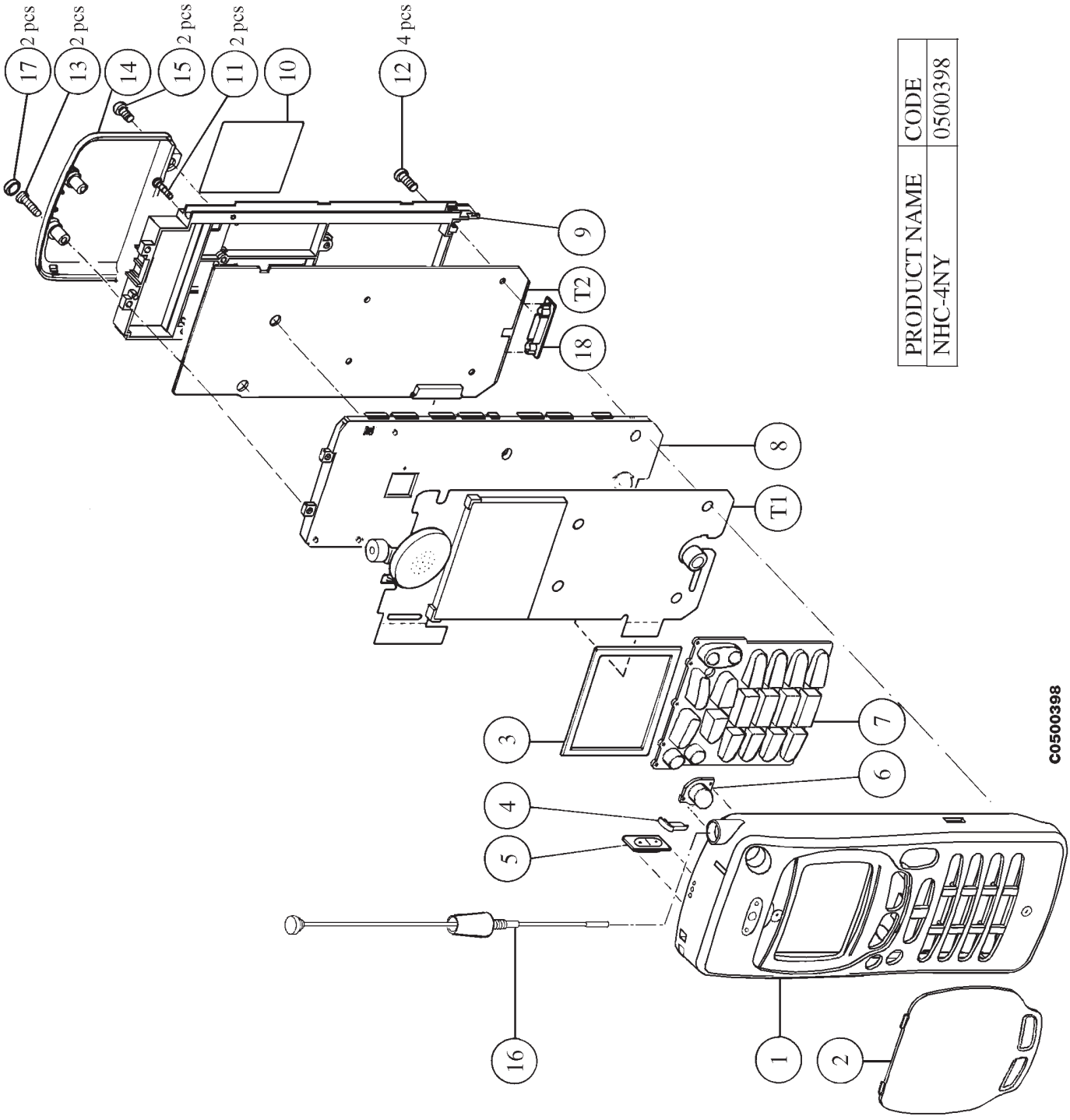
Exploded View of NHC–4NB and NHC–4HB



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Assembly Parts of NHC–4NB and NHC–4HB

ITEM	Q'TY	CODE	DESCRIPTION	VALUE, TYPE
1		9457224	Front cover	2C 24657
2		9450762	Window	3C 26272
5		9790055	Side keymat	3D 22995
6		9790128	Power keypad	4D 25043
7		9790200	Keypad	4C 26258
8		9460152	A–shield	1D 24508
9		9540009	B–shield	0D 24509
10		9380264	Continuous sheet	4D 23435
12	4	6291662	PT screw	1.8x8 FeZn torx6
14		9450592	Back cover	1D 25643
15	2	6290060	Screw	M2x5–BT ZNB torx6
16		0660101	Antenna AHA–12	JTI/DAMPS 824–894 MHz
17	2	9460109	Plug	4D 23622
18		9457112	Connector cover	3D 23772
T1		0200629	UIF module GU3	
T2		0200674	System module GR4	
	2	6291662	PT screw	1.8x8 FeZn torx6
	2	6291664	PT screw	1.8x16 FeZn torx6
		9560038	Edge clip	4D 26284

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